

**Ministry of Higher Education and Scientific Research Thi-
Qar university _ college of medicine**

2021/ 2022



**PRETERM PRELABOUR RUPTURE OF MEMBRANES IN
PREGNANT WOMEN IN AL NASIRIYAH CITY FOR THE
YEAR OF 2022.**

**This study was Submitted in partial fulfilling of the requirement for
the M.B.Ch.B.**

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بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

وَأَنْ لِّیْسَ لِلْإِنْسَانِ إِلَّا مَا سَعَىٰ ﴿٤٠﴾ وَأَنْ سَعِيهِ سَوْفَ يُرَىٰ ﴿٤١﴾ ثُمَّ يُجْزَاهُ الْجَزَاءَ الْأَوْفَىٰ ﴿٤٢﴾

صَدَقَ اللهُ الْعَظِيمُ

من سورة النجم آية ٣٩-٤١

Dedicated to ...

My family.

And to ...

*My country, Iraq and to all people who will
benefit from this work.*

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2022

Abstract:

Background: prelabour rupture of membranes refers to a patient who is beyond 37 weeks' gestation and has presented with rupture of membranes prior to the onset of labour. Preterm prelabour rupture of membranes is rupture of membranes prior to 37 weeks' gestation, Preterm prelabour rupture of membranes complicates only 2-3% of pregnancies but are associated with 40% of preterm deliveries and can result in significant neonatal morbidity and mortality.

Aim of study: to elicit the prevalence of preterm prelabour rupture of membranes, to investigate preterm prelabour rupture of membranes - delivery interval, to study the mode of delivery in those pregnant women and to study early maternal- neonatal complications.

Method: This study includes sixty pregnant women with preterm prelabour rupture of membranes between (24 to 36 + 6 days), these pregnant women were of different ages and with different predisposing factor. The study evaluates the preterm prelabour rupture of membranes delivery interval (latency period), the mode of delivery in those pregnant women, maternal and early neonatal complications.

Results: A total of 60 pregnant women with preterm prelabour rupture of membranes, were included in the study, age of patient population ranged from 19 to 44 years with a mean of 28.07 years and mode of 25 years and standard deviation of 6.4. This study found that the latency period between preterm prelabour rupture of membranes and the onset of delivery varies inversely with gestational age. namely the latency period is 28.4 hours in extremely preterm group (24-28 weeks), 36 hours in very preterm group (28-32 weeks), 27.6 hours in the moderate group (32-36 weeks). Furthermore, the study noticed that The maternal complications that brings the pregnant women to the hospital is (30% of total had starting labour, 26.7% of total had chorioamnionitis, 16.7% of total had placental abruption, 11.7% of total had fetal distress, 8.3% of total had breech presentation, 6.7% of total had transverse lie) have a rule in determining whether the indication of delivery is vaginal or caesarean in which 71.9% of deliveries were caesarean and 28.1% of deliveries were vaginal.

Conclusions: Preterm prelabour rupture of membranes is a significant issue for obstetricians The prevalence in this study is nearly 8.5 % of overall pregnancies.

Furthermore, the latency period between preterm prelabour rupture of membranes and the onset of delivery varies inversely with gestational age. The maternal condition that brings the pregnant women to the hospital in detail (starting labour, chorioamnionitis, placental abruption, fetal distress, breech presentation, transverse lie) have a rule in determining whether the indication of delivery is vaginal or caesarean. the statistical analysis of the study shows, that caesarean section more than vaginal deliveries. the gestational age is inversely proportional with the neonatal complications, namely, the study shows that the neonates of the extremely preterm group have more complications in comparison with the moderate preterm group.

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INTRODUCTION:

prelabour rupture of membranes refers to a patient who is beyond 37 weeks' gestation and has presented with rupture of membranes prior to the onset of labour. Preterm prelabour rupture of membranes is rupture of membranes prior to 37 weeks' gestation. Spontaneous preterm rupture of the membranes is rupture of membranes after or with the onset of labour occurring prior to 37 weeks. Prolonged rupture of membranes is any rupture of membranes that persists for more than 24 hours and prior to the onset of labour. [1]

Preterm prelabour rupture of membranes complicate only 2-3% of pregnancies but are associated with 40% of preterm deliveries and can result in significant neonatal morbidity and mortality. [2-3]

Complications of preterm prelabour rupture of membranes include preterm delivery, chorioamnionitis (13%–60%), placental abruption (4%–12%), endometritis (2%–13%), and cord compression. Another important complication commonly seen with PPRM is fetal malpresentation at delivery. [4]

It's often assumed that gestational age of delivery is the most important factor in the determination of perinatal outcome after preterm prelabour rupture of membranes in the absence of further complications, labour is often induced at 32–34 weeks of gestation. [5], [6]

The volume of amniotic fluid remaining after rupture appears to have prognostic importance in pregnancies before 26 weeks. [7] The prediction of delivery latency could help direct the need for specific interventions such as hospitalization, intensive monitoring, timing of antenatal steroids, and magnesium for neuroprotection. [8]

The aim of this study:

- 1- To elicit the prevalence of preterm prelabour rupture of membranes and study the mode of delivery, maternal and neonatal complications
- 2- To investigate the PPROM- delivery interval.

Literature review:

preterm prelabour rupture of membranes is associated with 30-40% of preterm deliveries and is the leading identifiable cause of preterm delivery. preterm prelabour rupture of membranes complicates 2-3% of all pregnancies and occurs in approximately 150,000 pregnancies yearly in the United States. [2-3]

The Risk factors:

Non-modifiable, major:

- Last birth preterm: 20% risk
- Last two births preterm: 40% risk
- Twin pregnancy: 50% risk
- Uterine abnormalities.
- Cervical anomalies.
- Cervical damage (cone biopsy, repeated dilatation).
- Fibroids (cervical).
- Factors in current pregnancy.
- Recurrent antepartum hemorrhage.
- Recurrent illness (e.g. sepsis).
- Any invasive procedure or surgery. [11]

Non-modifiable, minor:

- Teenagers having second or subsequent babies.
- Parity (0 or 5).
- Ethnicity (black women).
- Poor socioeconomic status.
- Education (not beyond secondary).
- Smoking: two-fold increase of preterm prelabour rupture of membranes.

[11]

Modifiable:

- Drugs of abuse: especially cocaine.
- Body mass index (BMI) 20: underweight women.
- Inter-pregnancy interval <1 year. [11]

The Causes:

1. Infection:

Subclinical intrauterine infection of the choriodecidual space and amniotic fluid is the most widely studied etiological factor underlying spontaneous preterm births. The uterine cavity is normally sterile but the vagina contains commensal bacteria. Depending on the bacterial load and cervical resistance, the bacteria may ascend through the cervix and reach the fetal membranes. This may activate the decidua, increase prostaglandin release and trigger contractions. Alternatively, it may weaken the membranes, leading to rupture. Early-onset neonatal sepsis, maternal postpartum endometritis and histological chorioamnionitis are all significantly more common after preterm birth, particularly those very early deliveries before 32 weeks. [11]

2. Over-distension:

The commonest cause of uterine over-distension is multiple gestation. Polyhydramnios has a similar effect. Overstretching of the myometrium (and possibly the membranes) leads to increased contractile activity and premature shortening and opening of the cervix. [11]

3.Vascular:

Disturbance at the uteroplacental interface may lead to intrauterine bleeding. The blood can track down behind the membranes to the cervix and be revealed. Alternatively, it may track away from the cervix and be concealed. Either way, the blood irritates the uterus, leading to contractions, and damages the membranes, leading to early rupture. [11]

4.Surgical procedures and intercurrent:

Illness. Serious maternal infective illnesses such as pyelonephritis, appendicitis and pneumonia are associated with preterm labour. In these cases, preterm labour is presumed to be due either to direct blood-borne spread of infection to the uterine cavity or indirectly to chemical triggers, such as endotoxins or cytokines. Many other illnesses, such as cholestasis of pregnancy, and non-obstetric surgical procedures are associated with preterm labour, although the mechanisms for this remain obscure. Amniocentesis is a pregnancy-specific procedure associated with an increased risk of late miscarriage and early birth. It is most commonly performed at (15–18 weeks' gestation). It is associated with a 0.5% chance of subsequent pregnancy loss before viability. This may happen in the days after the procedure but many losses occur several weeks later and a small increased chance of preterm delivery persists after reaching viability. [11]

5.Abnormal uterine cavity

A uterine cavity that is distorted by congenital malformation may be less able to accommodate the developing pregnancy. Associated abnormal placentation and cervical weakness may also contribute. Fibroids in a low position may also lead to complications. However, fibroids are common and most pregnancies are successful despite their presence. [11]

6.Cervical weakness

Due to previous surgical damage or a congenital defect, the cervix may shorten and open prematurely. The membranes then prolapse and may be damaged by stretching or by direct contact with vaginal pathogens. These same pathogens may ascend and trigger contractions. Often referred to as 'cervical incompetence',

weakness may be a better term. The evidence suggests that gradations of deficiency exist. [11]

7-Idiopathic

In many cases, especially mildly preterm births between 34 and 36 weeks, no cause will be found. In these cases, the physiological pathways to parturition may simply have been turned on too early. [11]

Diagnosis:

More than 90 % of cases are confirmed based on the patient's description and a speculoscopy with monitoring of direct amniotic fluid leaking. Detection rises to 97% with the help of a nitrazine test (pH indicator) or a crystallography. [12,13]

If an ultrasound shows absent or low amniotic fluid levels, the diagnostic suspicion is even more relevant. However, a normal amniotic fluid volume does not rule out the diagnosis.

vaginal examination is not recommended because it increases the risk for infection and reduces the latent period to birth. [14]

Once preterm prelabour rupture of membranes is diagnosed, the patient is examined to determine if there's any indicator for delivery, such as chorioamnionitis. Then, if expectant management is decided upon, interventions will be implemented. Antibiotic therapy Its objective is to prevent an ascending infection and prolong pregnancy so as to indicate corticosteroids and reduce perinatal and maternal morbidity. According to the Cochrane Review, the use of antibiotics versus placebo did not show significant differences in terms of neonatal mortality rate, [15,16]

Pathology tests

- Full blood picture.
- C-reactive protein if clinically indicated – while studies have shown a C-reactive protein is a poor predictor of chorioamnionitis, studies cannot conclude that it is ineffective in detection of chorioamnionitis or neonatal sepsis. [17,18]
- Mid-stream urine.
- Low vaginal swab and rectal swab for culture, including specific Group B Streptococcus testing.
- Endocervical swab if screening required for Chlamydia. [19]

Ongoing follow-up pathology tests may be ordered by the medical team if clinically indicated:

1. Full blood picture and/or C-reactive protein if there is suspicion of infection.
2. Low vaginal swab as required.

Clinical management

Obstetric interventions are not recommended when preterm prelabour rupture of membranes occurs at a pre-viable gestational age, and management of pre-viable preterm prelabour rupture of membranes will be discussed separately. During the peri-viable period (20 0/7 weeks to 25 6/7 weeks' gestation), certain obstetric interventions are not recommended, while some should be considered, and others are recommended depending on decisions regarding resuscitation and the family's preferences after appropriate counseling [20].

The initial evaluation of the periviable and viable fetus with suspected preterm prelabour rupture of membranes should include confirmation of the diagnosis, as well as an ultrasound determination of the fetal presentation, amniotic fluid volume, and estimated fetal weight. Fetal well-being should be evaluated by an external fetal heart rate monitor and the presence or absence of uterine contractions should be established by external monitoring. A culture for group B streptococcus should be obtained prior to antibiotic administration. Unless the patient is in active labour, a visual assessment of the cervix with a Sterile speculum exam to determine dilation and effacement is preferred over a digital exam, as digital exam have been associated with an increased risk of infection [21].

The diagnoses of cord prolapse and significant placental abruption are obstetric emergencies which necessitate immediate delivery of the viable fetus. Similarly, advanced cervical dilation with fetal malpresentation may be an indication for cesarean delivery. Delivery should also be considered for intra-amniotic infection, labour, and a non-reassuring fetal heart rate tracing or biophysical profile. In the absence of the above indications for delivery, hospitalization, and expectant management are recommended for pregnancies complicated by preterm prelabour rupture of membranes at less than (34 0/7 weeks). During hospital admission, periodic evaluations to exclude intra-amniotic infection, labour, placental abruption, and non-reassuring fetal status are performed to determine if delivery is indicated. Antenatal testing is suggested to ensure fetal wellbeing.

Currently, outpatient management is not recommended for preterm prelabour rupture of membranes at a viable gestational age [21].

The latency period

In the absence of indications for delivery, expectant management is recommended to decrease the risks to the baby associated with prematurity. The latency period is defined as the time between rupture of membranes and delivery, either spontaneous or indicated [22]

Factors associated with a shorter latency period include a later gestational age at the time of rupture of membranes [23,24 ,25].

Re-accumulation of the amniotic fluid after preterm prelabour rupture of membranes has been associated with an increased latency and decreased perinatal morbidity and mortality [26].

Certain interventions, such as antenatal corticosteroids, magnesium sulfate for neuroprotection, and delivery at (34 0/7weeks) have been shown to improve neonatal outcomes, while latency antibiotics have been shown to prolong latency in women with preterm prelabour rupture of membranes.

Corticosteroids for prematurity:

Antenatal corticosteroids have been shown to decrease neonatal mortality, respiratory distress syndrome, intraventricular hemorrhage, and necrotizing enterocolitis in infants born to women with preterm prelabour rupture of membranes [27,28].

Magnesium sulfate for fetal neuroprotection:

Randomized control trials and meta-analyses have shown that magnesium sulfate given to women at risk for preterm delivery reduces the risk of a diagnosis of cerebral palsy in the infants [29].

Magnesium sulfate for fetal neuroprotection should be considered for women with preterm prelabour rupture of membranes at risk of imminent delivery after (23 0/7 weeks), and is recommended between (24 0/7weeks) and (32 0/7weeks) [30]

Prophylactic antibiotics in preterm prelabour rupture of membranes:

Prophylactic antibiotics in the setting of preterm prelabour rupture of membranes

under (34 0/7weeks) of gestation has been shown to increase the latency period, reduce infectious morbidity, and reduce gestational age-dependent morbidity.

Prophylactic antibiotics to prolong latency during expectant management of patients with preterm prelabour rupture of membranes could be considered between (20 0/7) and (23 6/7), and are recommended between (24 0/7) and (34 0/7) [31]. Regardless of the regimen or duration of prophylactic antibiotic treatment, candidates for intrapartum group B streptococcus prophylaxis should be treated during labour [32].

Tocolysis:

Multiple studies have been performed to evaluate if tocolysis prolongs latency and improves neonatal outcomes in the setting of preterm prelabour rupture of membranes.

Although tocolysis was associated with an increase in the latency period (mean difference 73 hours and fewer births within 48 hours, there was an increase in chorioamnionitis in the group that received tocolytics, as well as a need for ventilation in the neonates.

Because tocolysis has not been shown to prolong latency or improve neonatal outcomes in women with preterm prelabour rupture of membranes who are in active labour, it is currently not recommended [32].

The neonatal complications:

The fetal and neonatal morbidity and mortality risks are significantly affected by severity of oligohydramnios, duration of latency, and gestation at preterm rupture of membranes. The complications of preterm rupture of membranes for the fetus and newborn consist of prematurity, cord compression, deformation and altered pulmonary development leading to pulmonary hypoplasia, pulmonary hypertension, necrotizing enterocolitis, neurologic disorder, respiratory distress syndrome, intra ventricular hemorrhage and sepsis. [31, 32, 33]

The maternal complications:

Include Fetal distress, Breech presentation, Transverse lie, Placental abruption Chorioamnionitis, Starting labour.

Materials and methods

The study is descriptive / cross-sectional. This study was conducted Through April and May of 2022 in Al Nasiriyah city.

Sample

This study includes sixty pregnant women with PPRM between (24 and 36 +6 days) weeks of gestational age, preterm prelabour rupture of membranes was diagnosed by history and physical examination.

The pregnant women were of different ages, medical history and different predisposing factors.

Method and data collection

The study evaluates the preterm prelabour rupture of membranes - delivery interval (latency period), the mode of delivery in those pregnant women, early neonatal complications, a questionnaire form was designed filled by the group members for each patient with direct interview.

The medical history was taken from pregnant women about their age, gravida, parity, number of miscarriages, the mode of delivery in the previous pregnancies, the gestational age (by week), history of medical disease, history of preterm rupture of the membranes, history of Preterm prelabour rupture of the membranes, history of any previous trauma , history of urinary tract infection, history of vaginal discharge, number of alive and dead infants , the time between the date of admission to the hospital and the time of labour (the interval), the mode of current delivery, the maternal and neonatal complications.

Result:

A total of 60 pregnant women with preterm prelabour rupture of membranes, were included in the study, age of patient population ranged from 19 to 44 years with a mean of 28.07 years and mode of 25 years and standard deviation of 6.4 as shown in figure (1), the prevalence of preterm prelabour rupture of membranes in nearly 3 cases out of total 35 pregnant women.

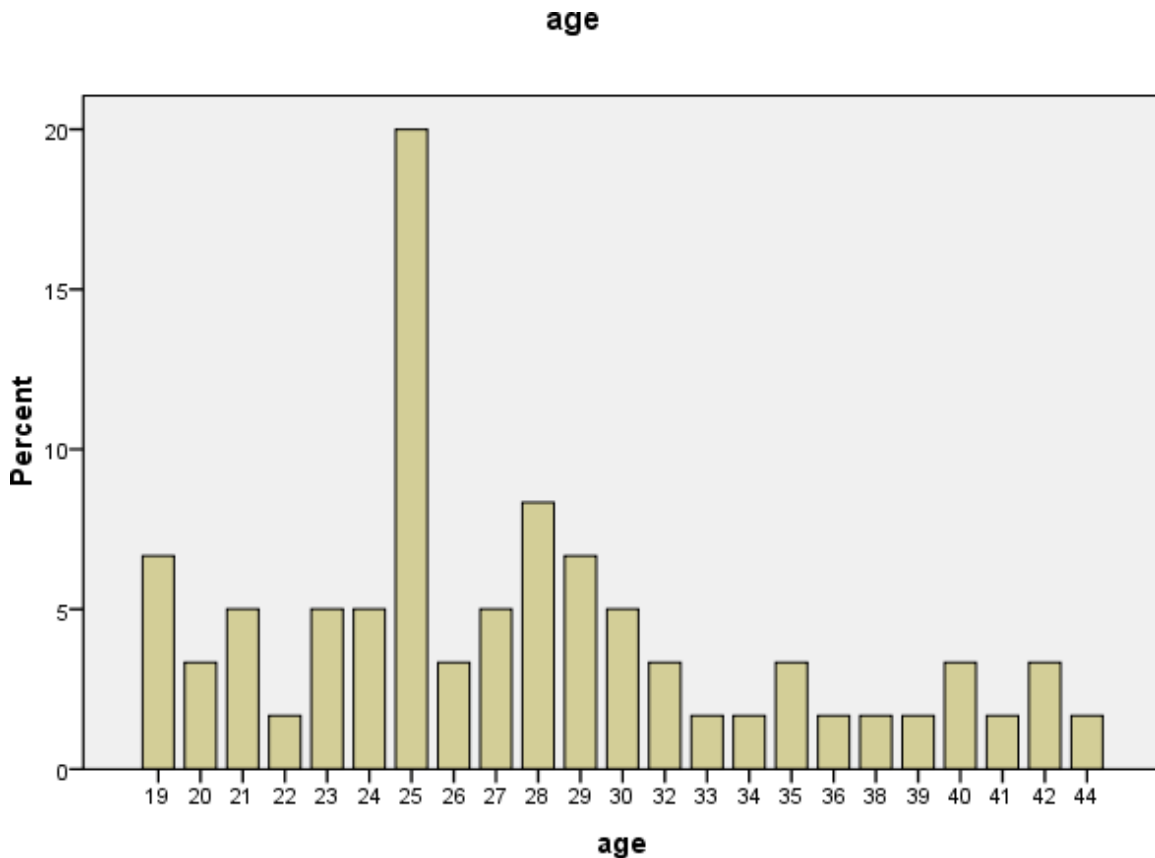
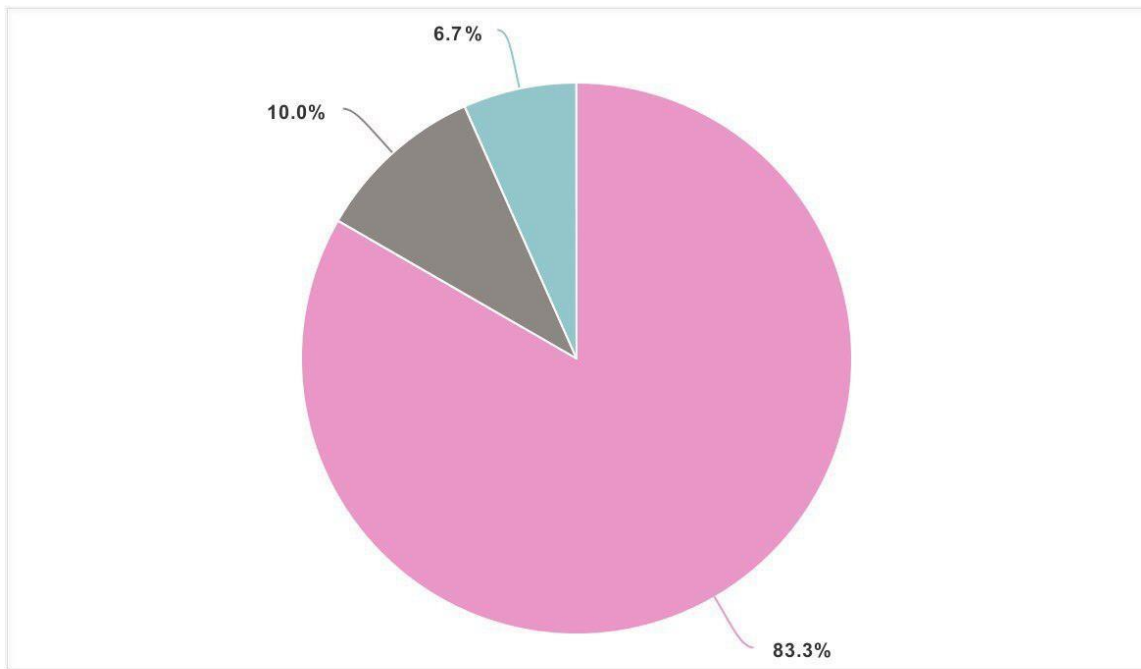


Figure (1): the age of pregnant women

The pregnant women are divided into categories according to the age as shown in figure (2):



■ middle age ■ old age ■ young age

meta-chart.com

Figure (2): the pregnant women into ages

Table (1): preterm prelabour rupture of membranes at different gestational age

Gestational age (weeks)	Frequency	Percent
Extremely preterm (24-28 weeks)	12	20.0%
Very preterm (28-32 weeks)	8	13.3%
Moderate (32-36 weeks)	40	66.7%
Total	60	100.0%

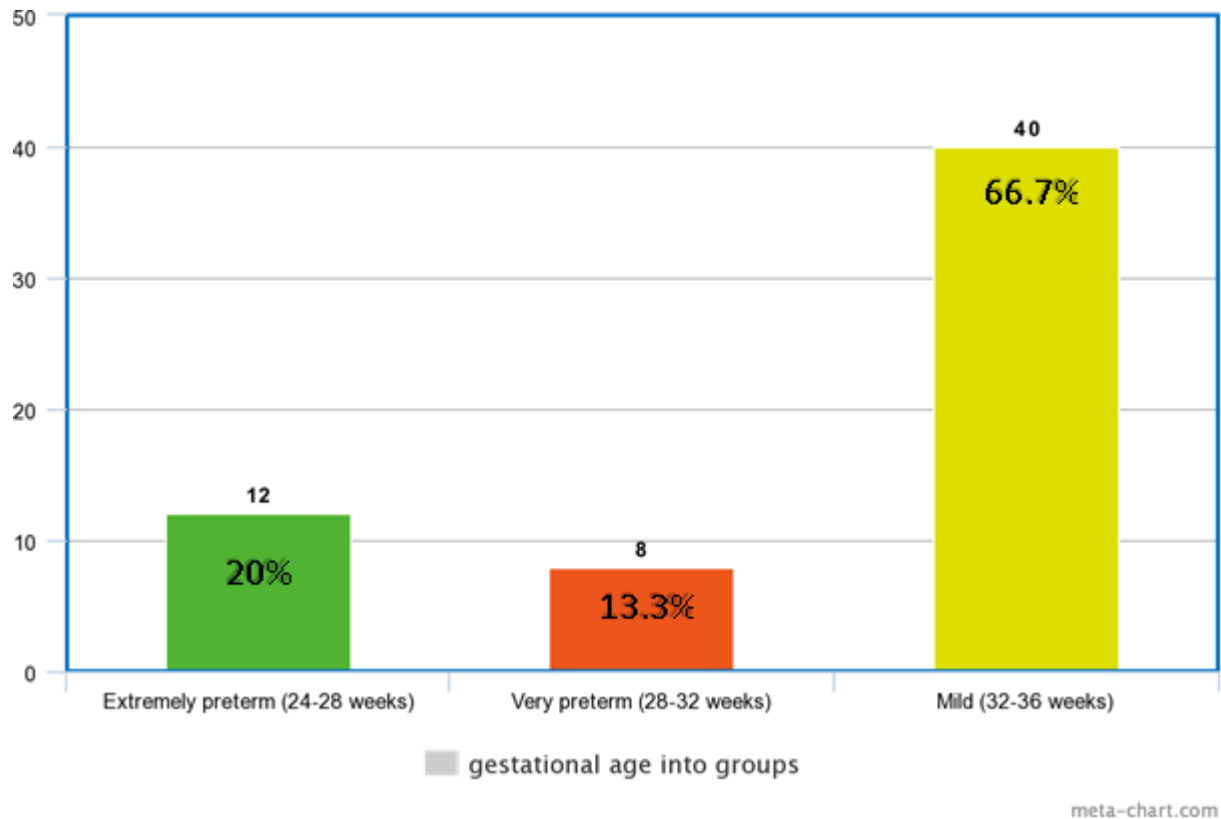


Figure (3): Gestational age into groups

Table (2): neonatal weight and mode of delivery

Gestational age (weeks)	Mode of delivery	
	Caesarean%	Vaginal%
Extremely preterm (24-28 weeks)	71.43%	28.57%
Very preterm (28-32 weeks)	75%	25%
Moderate (32-36 weeks)	72.55%	27.5%

The pregnant women were divided into three groups according to the socioeconomic status as shown in figure (4):

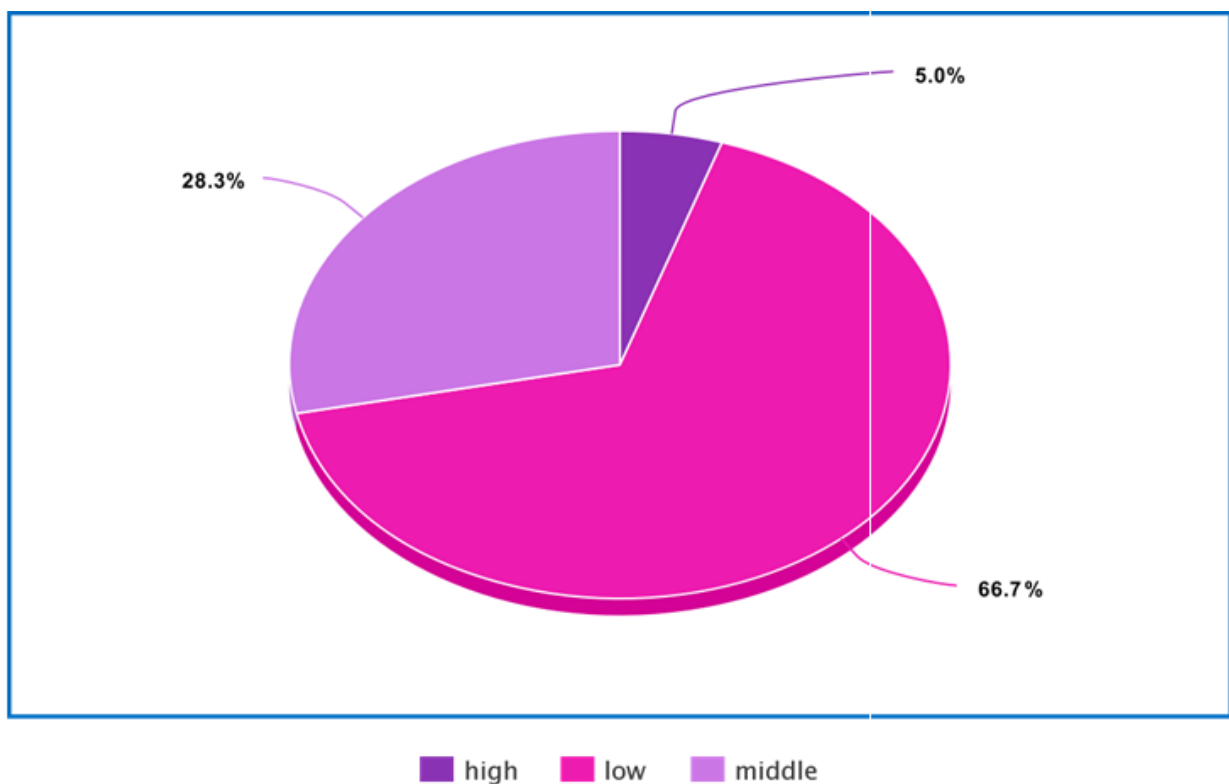


Figure (4) socioeconomic status levels

The pregnant women were divided into groups at different parity numbers as shown and described in table (3)

Table (3) parity into groups		
Number of parity	Frequency	Percent
Nulliparous (P0)	21	35.0
Primiparous (P1)	16	26.7
Multiparous (P2-5)	21	35.0
Grandmultiparous (P>5)	2	3.3
Total	60	100.0

The mode of current delivery was also observed, 71.9% of deliveries were caesarean and 28.1% of deliveries were vaginal as shown in figure (5):

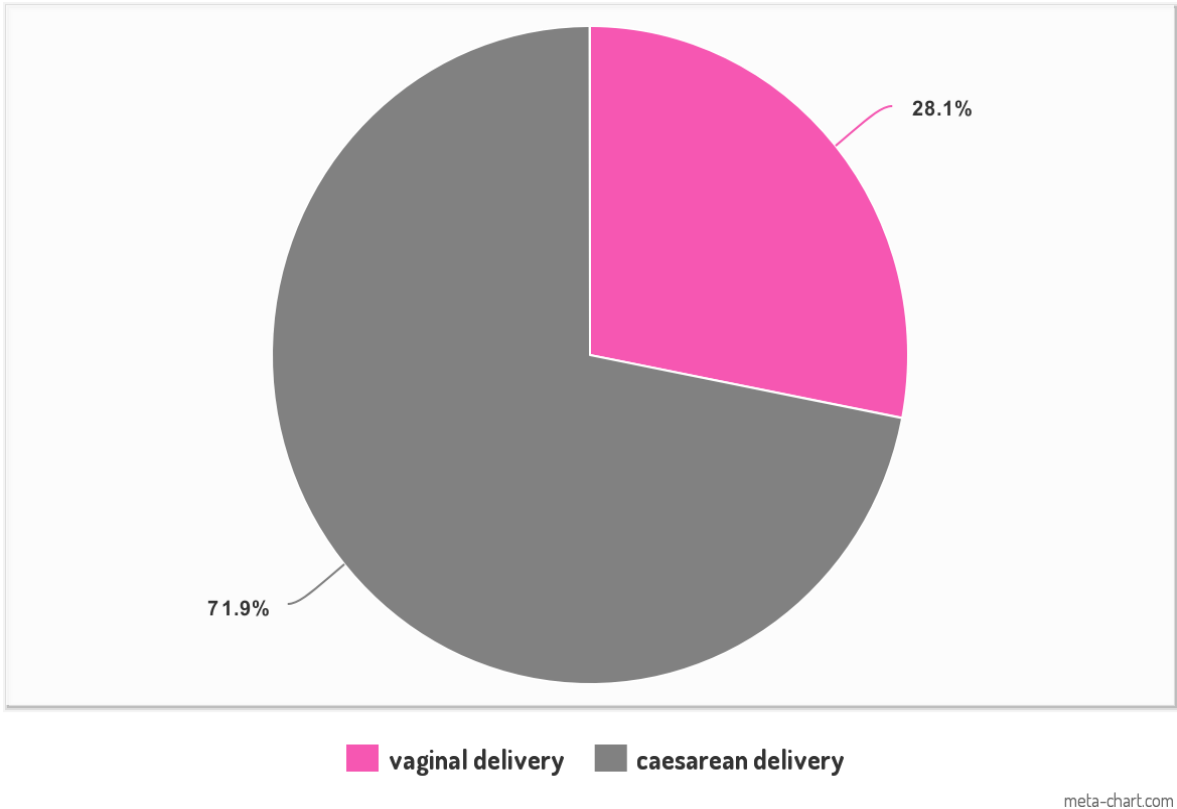


Figure (5): The mode of current delivery.

The maternal complications are listed and described in the table (4)

Table (4): The maternal complications.

complications	Frequency	Percent
Fetal distress	7	11.7%
Breech presentation	5	8.3%
Transverse lie	4	6.7%
Placental abruption	10	16.7%
Chorioamnionitis	16	26.7%
Starting labour	18	30.0%
Total	60	100.0%

The clinical condition and past medical history was also observed, 18.3% of patients had hypertension, 16% had diabetes mellitus, 6.7% had thyroid disease and 26.7% were obese as shown in table (5)

Table (5) maternal diseases

Diseases	Frequency		Percent	
	positive	Negative	Positive	Negative
Hypertension	11	49	18.3%	81.7%
Total	60		100%	
Diabetes mellitus	11	49	18.3%	81.7%
Total	60		100%	
Thyroid disease	4	56	6.7%	93.3%
Total	60		100%	
Obesity	16	44	26.7%	73.3%
Total	60		100%	

Table (6): predisposing factors of preterm prelabour rupture of membranes.

Predisposing factors	Frequency		Percent	
	positive	negative	Positive	Negative
Urinary tract infection	31	29	51.7%	48.3%
total	60		100%	
Vaginal discharge	23	37	38.3%	61.7%
total	60		100%	
trauma	13	47	21.7%	78.3%
total	60		100%	

Discussion:

Prelabour rupture of membranes refers to a patient who is beyond 37 weeks' gestation and has presented with rupture of membranes prior to the onset of labour. Preterm prelabour rupture of membranes is rupture of membranes prior to 37 weeks' gestation. [1]

The prevalence of preterm prelabour rupture of membranes is nearly 8.5 % of overall pregnancies. Which is higher than a study by (RCOG Green-top Guideline No.44) that suggests the prevalence of preterm prelabour rupture of membranes 2% of overall pregnancies [3],

As a result of dividing the pregnant women into three groups according to the gestational age [Extremely preterm (24-28 weeks), Very preterm (28-32 weeks), Moderate (32-36 weeks)], the latency period became slightly different in each group. in detail, 28.4 hours is the mean of latency period in extremely preterm group, 36 hours in very preterm group, 27.6 hours in the moderate group, this slight difference among these groups is possibly consequent to the maternal complication, that make the obstetrician decides whether the delivery is induced or spontaneous, namely, the study shows that 30% of total pregnant women with preterm prelabour rupture of membranes were starting labour, 26.7% of total had chorioamnionitis, 16.7% of total had placental abruption, 11.7% of total had fetal distress, 8.3% of total had breech presentation, 6.7% of total had transverse lie.

These complications have a rule in determining whether the indication of delivery is vaginal or caesarean, as the statistical analysis of the study shows, 71.9% of deliveries were caesarean, while 28.1% were vaginal deliveries this result is not identical to what we found in other researches that handles more or less the same condition, according to a study that was made in Mulago Hospital, between November 2015 and May 2016, the result was 30.5% caesarean delivery, while vaginal delivery accounts for 69.5% (vaginal delivery is obviously of higher percentage) [33]

In the other hand, the gestational age is inversely proportional with the neonatal complications, namely, the study shows that the neonates of the extremely preterm group have more complications in comparison with the moderate preterm group. In detail, the study showed that in the extremely preterm group, 83.3% of total neonates had respiratory distress syndrome, 75% of total neonates had jaundice, while in the very preterm group, 75% of total neonates had respiratory distress syndrome, 62.5% of total neonates had jaundice. In the moderate preterm group,

45% of total neonates had respiratory distress syndrome, 35% of total neonates had jaundice.

The study showed that, there was wide variation of age, ranging from 19 to 44 the mean age was 28 years and a standard deviation of 6.4 years, 50 out of 60 pregnant women were of middle age (20-40years), while 6 out of 60 pregnant women were of old age (>40 years), and 4 out of 60 pregnant women were of young age (≤ 19), 66.7% of these pregnant women were of poor socioeconomic status, 28.3% were of middle class and 5% were of high class.

Moreover, this study reveals that 35% of pregnant women were nulliparous(P0), 35% were multiparous (P2-5), 26.7% were primiparous (P1) and 3.3% were grandmultiparous (P>5), however, 15% of these pregnant women had preterm rupture of membranes, while 23.3% had preterm prelabour rupture of membranes. furthermore, these pregnant women had medical history, 18.3% of total pregnant women had hypertension, 16% had diabetes mellitus, 6.7% had thyroid disease and 26.7% were obese, never the less, 11.7% of total pregnant women had gestational diabetes, 8.3% had anemia.

As the predisposing factors of the preterm prelabour rupture of membranes in these pregnant women were assessed, 21.7% of patients had history of trauma, 38.3% of patients had history of abnormal vaginal discharge and 51.7% had history of urinary tract infection.

A cross sectional observation study was conducted from January 2017 to October 2017 in Al-Kufa, the study showed that there was a correlation between amniotic fluid index and cervical length and the prediction of time of labour. So, women with amniotic fluid index < 5 and cervical length < 2 had 86.4% risk of preterm prelabour ruptures of membranes. [34]

Conclusion:

Preterm prelabour rupture of membranes is a significant issue for obstetricians The prevalence in this study is nearly 8.5 % of overall pregnancies. this is maybe due to maternal complications such as: (starting labour, chorioamnionitis, placental abruption, transverse lie, breech presentation, fetal distress).

Furthermore, the latency period between preterm prelabour rupture of membranes and the onset of delivery varies inversely with gestational age. namely the latency period is 28.4 hours in extremely preterm group (24-28 weeks), 36 hours in very preterm group (28-32 weeks), 27.6 hours in the moderate group (32- 36 weeks).

The maternal condition that brings the pregnant women to the hospital in detail (30% of total had starting labour, 26.7% of total had chorioamnionitis, 16.7% of total had placental abruption, 11.7% of total had fetal distress, 8.3% of total had breech presentation, 6.7% of total had transverse lie) have a role in determining whether the indication of delivery is vaginal or caesarean, the statistical analysis of the study shows that is 71.9% of deliveries were caesarean, while 28.1% were vaginal deliveries.

Recommendation:

1. Preterm prelabour rupture of membranes is an important issue that must be given sufficient attention to it because of the complications it entails.
2. It should be noted that pregnant women with Risk of preterm prelabour rupture of membranes should be admitted to the hospital for follow-up and complete treatment for the possibility of premature birth and other complications.
3. The Health awareness of pregnant women should be increased about the risk of preterm prelabour rupture of membranes, especially for pregnant women with previous history of Preterm prelabour rupture of membranes

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